

## CLAIMS:

1. Method for creating a waveform composed by superposition of N waves using a Coordinate Rotation Digital Computer (CORDIC), where said CORDIC calculates within N calculating steps discrete values of said N waves, and where said output of said discrete values from said CORDIC is cumulated with previous outputs of discrete values to form a  
5 composed discrete value of said waveform.
2. Method according to claim 1, characterized in that with each of said N calculating steps an output of a first queue of N amplitude values of said N waves is fed to an amplitude input of said CORDIC.  
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3. Method according to claim 1, characterized in that with each of said N calculating steps an output of a second queue of N phase values of said N waves is fed to a phase input of said CORDIC.
- 15 4. Method according to claim 1, characterized in that with each of said N calculating steps an output of a third queue of N phase offset values for said N waves is cumulated to the output of said second queue of N phase values and the cumulated result is fed back to an input of said third queue of phase values, such that after N calculating steps said third queue comprises N phase values cumulated with phase offset values.  
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5. Method according to claim 1, characterized in that within MxN calculating steps M discrete values of said waveform at least providing one full period of said waveform are calculated.
- 25 6. Circuit arrangement, in particular with a method according to claim 1, comprising a CORDIC with an amplitude input, a phase input and an output, where a first queue of N amplitude values is coupled to said amplitude input, a second queue of N phase values is coupled to said phase input, a third queue of N frequency values is together with the

output of said second queue coupled to an adder, and where the output of said adder is coupled to the input of said second queue.

7. Circuit arrangement according to claim 6, comprising a feedback circuit  
5 coupled to said output of said CORDIC, said feedback circuit providing cummulation of N outputs of said CORDIC to generate a composed discrete value of said waveform composed by superposition of N waves.

8. Software implementing a method according to claim 1.

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9. Software according to claim 1, characterized in that said discrete values are calculated based on integer arithmetic.

10. Use of a method according to claim 1, a circuit arrangement according to  
15 claim 6 or a software according to claim 8 for sinewave composition, sinusoidal coding/decoding, parametric audio and/or video coders/decoders, and/or mobile communication devices.